E/CONF.39/D/58
8 Oct. 1962
ORIGINAL : ENGLISH

UNITED NATIONS CONFERENCE
ON THE APPLICATION OF SCIENCE AND TECHNOLOGY
FOR THE BENEFIT OF THE LESS DEVELOPED AREAS

Agenda Item : D.1

United Kingdom

SPECIAL FACTORS AFFECTING INDUSTRIAL DEVELOPMENT IN LESS DEVELOPED AREAS

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SPECIAL FACTOR AFFECTING INDUSTRIAL DEVELOPMENT IN LESS DEVELOPED AREAS

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1. This paper is written from a knowledge of and experience in the Federation of Rhodesia and Nyasaland, some of the comments may not be applicable to countries which have advanced further along the road of industrialisation.

2. No discussion on industrial development can start off without a reference to the basic infrastructure that must be provided before any sort of productive development on a reasonable scale is possible. Whilst not wishing to dwell on this point in this paper a brief reference to what I consider essential in the infrastructure will prevent their being overlooked. These are

   (a) an adequate transport system to bring material and capital equipment to industry, and to carry the finished products to the market,

   (b) fuel, power and water supplies in adequate quantities and at the right price,

   (c) retail outlets for the products to be sold,

   (d) a banking or credit system to provide working capital,

   (e) buildings in the form of industrial premises, offices, housing and the like,

   (f) efficient Government

   (g) medical and educational facilities.

3. Having mentioned them it is now assumed for purposes of this paper that the infrastructure is adequate for the development of industry. In practise, of course, very large sums have been spent in the past by pioneer industrialists to provide such facilities. The British South Africa Company had to develop most of these services when opening up Central Africa whilst the copper mining companies had to spend very large sums on the Copperbelt making towns out of what was African bush.

4. Agricultural, mining and manufacturing are usually referred to as the productive sectors in an economy; any country which can develop all three basic sectors at the same time has the best chance of achieving a rapid rate of development. However the potential in any underdeveloped territory is dependent on the minerals to be exploited, the area of land available and climate, and the inherent but latent ability of the people. The Federation is particularly fortunate in having minerals in abundance, a large land area with adequate rainfall and people of varying races capable of providing most types of labour.

5. It is no accident that most less developed countries today are basically raw material producers for industry in the more advanced countries. Without going into the historical background to this situation, what is of importance is that the advanced countries have customs tariffs in operation which protect the products of their own industries but allow the entry of raw materials for these industries.

6. This practise inhibits the development of industry in the less developed areas because items which can be produced more economically by large scale methods, cheap materials and labour cannot readily be disposed of on world markets.

7. Strategic considerations have a material bearing on this same issue; in the advanced countries with large munitions industries it is important that the steel industries should be capable of making maximum use of local raw materials including iron ore supplies. Even though it may be more economical to obtain pig iron from certain of the presently under-developed areas, such supplies are often ignored or used only to a minimum extent because of the need to maintain blast furnace capacity for strategic purposes. Instead of iron smelting developing at the site of the iron ore, the iron ore itself is transported to the market with all the attendant waste in railage and shipping that this might entail. The same policy operates in relation to many other raw materials.

8. The less developed areas taken together appear to be producing for export ever increasing quantities of agricultural crops and minerals. There are good reasons for this and these include

   (a) the fact that the development of agriculture is easier because a base for this development already exists even in the most primitive countries and the capital expenditure required is likely to be relatively small,

   (b) the activity of the large mining groups who have been prepared to carry out pioneer investment on a large scale in the less developed areas to maintain the flows of minerals to markets in the more advanced countries.

9. However world trends are and have been towards lower prices for primary products and consequently countries too heavily dependent on such exports are in danger of becoming poorer in a world which is striving to increase per capita incomes.

10. Because of the difficulty of selling manufactured products on world markets, the less developed countries have only their own domestic markets to rely on for the development of manufacturing industry. This generalisation may be modified to the extent that crops and minerals may require to be processed to the intermediate stage to save transport costs in their carriage for further processing in the advanced countries.

11. For the development of a particular manufacturing industry it is safest to consider the domestic market as the basic market. Even when there appear to be markets open in surrounding countries these markets cannot be relied upon for any length of time because of the pressure in all less developed areas to build their own industries.

12. The size of the domestic market available is often assessed from the level of imports of the particular product. In a growing economy it is possible to make forward assessments of the growth likely in the item being investigated. However the obvious point can be made that the domestic market in an under-developed country is likely to be small and many industries may have to be established more on the growth potential than on the actual market.

13. Economic manufacture is possible at many levels of output, particularly when advantage can be taken of the cheap labour that is often available in the under-developed countries. Although allowance must be made for increasing wages which go hand in hand with development, there is definitely scope for the use of machinery which in the advanced countries may have become outmoded because of the high level of labour costs in those countries. Too much emphasis should not, therefore, be given to the most up-to-date machinery particularly when there is an abundance of labour seeking employment.

14. The problem of the examination of whether the local market justifies local production is often made difficult in a less developed area because of a shortage of experts to make such examinations. One way in which this particular problem can be met is by establishing a permanent body specially staffed to make a continuous examination of manufacturing development.

15. An industry which makes use of raw materials locally produced is more likely to bring benefits to the national income of a country than one which relies on imported raw materials. However, this is a broad generalisation and it may often be necessary for manufacture to be commenced based on imported materials as the materials required are likely to be made locally as soon as the market becomes sufficiently large. As an example, steel production in a developing country may have to await the growth of the local market. Steel sheet for a new manufacture may be imported at the outset but when its use increases, at a certain stage it obviously becomes an economic proposition for steel sheet to be made in a local iron and steel industry. Similarly a clothing industry may develop on imported materials, but when the demand increases the materials themselves start to be manufactured in a local textile industry.

16. Where industry is developed based on imported materials, there may in fact be a reduction in national income particularly if a customs duty was levied on the items previously imported. This is only a short term possibility, however, in the longer period with developments in more basic industries considerable benefits will undoubtedly accrue to the economy of the country concerned. Unfortunately it may happen that a poor country may be unable to afford to develop certain industries even when they promise future benefits because of the loss to the national income in the interim period.

17. Even when the assessment of the impact on the national income is favourable manufacturing industry may be difficult to establish because capital or certain types of skilled labour may be unobtainable.

18. Where capital is concerned, private enterprise may be unwilling to make an investment even when the rewards are reasonable because more money can be made by supplying the market from sources outside the particular country.

19. The problem of staffing is probably the most difficult one for developing a new industry in an under-developed country. The top echelon in the industry concerned will probably need to be brought into the country from the advanced countries. This means that such personnel who in any event would be expensive would need to be offered particular incentives to encourage them to move from their own countries. This problem becomes less acute when there has been sufficient time to train local personnel, but even here training facilities may be difficult to establish and such training may have to be provided in associated industries in the advanced countries. Where managerial and skilled personnel are likely to be expensive it is obviously necessary to be highly selective in filling the posts involved and to economise on such posts to the maximum extent.

20. In those under-developed countries which are fortunate in having a small settled skilled or managerial class, the fullest advantage should be taken of the skills of such persons and every effort made to retain them as permanent residents.

21. Local labour in the under-developed countries being unskilled or semi-skilled requires training, and maximum use must be made of what is available. It is important to realise that manufacturing industry dependent on such labour has to incur many costs which are not necessary in the advanced countries. There is usually no class of people brought up to a background of industrialisation as is the case in the advanced countries; the facilities for technical training are often very limited; the education system may only be capable of providing a very low level of general education on the average; hands which have been used to handling a hoe or a spear may not move quickly into using a sewing machine or an electric hand tool. All this means that in the early stages in a new manufacturing industry the productivity of labour may be low, but whilst this may be so it is also true that new skills are readily acquired particularly if jobs can be fragmented so that the range covered by a particular occupation is fairly narrow. Overtime the productivity of labour based on experience in the

Federation shows significant increases leading to lower real costs for labour. In practise, of course, such increased productivity usually leads to higher wages being paid.

22. The relationship of capital and labour in a particular industry should be decided on an assessment of the costs and the economic results of utilising each. Where unskilled labour is plentiful and cheap as is commonly the case in the less developed countries maximum use should be made of this factor of production. Skilled labour including management being relatively expensive must as indicated earlier be used only sparingly. Capital which is often expensive and scarce in developing countries must be economised on to the maximum extent. The methods of production adopted in particular industries sometimes appear to overlook the advantages of the most economic combination of factors of production because there is a tendency to utilise similar production methods as are operative in the advanced countries where all labour is expensive.

23. Even the system of tax allowances designed to encourage greater utilisation of machinery and plant has been copied in the less developed areas from the practise of the advanced countries. Whether this system is relevant to less developed countries in their present stage of development does not appear to have been examined properly but it does lead to the employment of more of the scarce factor of production-capital- and less of the factor in abundance-unskilled labour.

24. There is no quick or straightforward answer to the correct combination of factors of production in any particular industry, this must await expert appraisal preferably by an entrepreneur with wide experience in the manufacture of the product concerned - experience which should be related to varying conditions in a number of countries at different stages of development. There are, of course, many manufacturing industries which require a fairly large market before they can even be contemplated and a country must have taken certain steps along the trail of development before such industries can be considered. Obvious examples of such capital intensive industries are iron and steel, chemicals and oil refining.

25. When the stage is reached for the development of capital intensive industries it is important to utilise the equipment of these industries to the maximum extent if necessary by running three shift production; most labour required for such three shift production should be readily available, but difficulties might arise over an adequate supply of skilled personnel.

26. As a generalisation, the development of secondary industry in an under-developed country starts with those industries serving the basic consumer requirements such as food and drink, clothing and footwear. These industries are likely to be successful even where incomes are very low especially where urban as distinct from rural communities start to form. Industries of this type can be established at the very smallest level and they are also well suited to growth at many different rates.

27. As an illustration of the trends which become apparent in the developing consumer market in African urban areas, the results of urban budget surveys held amongst Africans in the main towns of Northern and Southern Rhodesia between 1958 and 1960 are thought to be of interest. These are detailed below and they do illustrate the importance of the basic consumer needs in low income groups.

TABLE 1. DISTRIBUTION OF ANNUAL EXPENDITURE OF ALL AFRICANS IN THE MAIN TOWNS OF NORTHERN AND SOUTHERN RHODESIA.

Expenditure Head	Total Estimated Annual Expenditure £ m	Relative Expenditure Per Cent
Foodstuffs	14.3	45.8
Clothing and Footwear	5.5	17.6
Fuel and Light	1.0	3.2
Drink and Tobacco	4.1	13.2
Cycles	0.5	1.7
Household Stores	2.3	7.3
Miscellaneous	3.5	11.2
Total	31.2	100.0

28. The foodstuffs of most importance to the African consumer were mealie meal, meat, bread, sugar, fish and vegetables; in clothing shirts and flannel trousers for men, dresses for women and girls and khaki shorts and shirts for boys were mostly purchased; African type beer was the big item in the drink and tobacco group. (Full details of the results of the surveys are obtainable from the Central Statistical Office).

29. One other broad generalisation can be made about the development of secondary industry in less-developed countries. This is that processing of crops and minerals to save transport costs and for preserving purposes may be a very useful means of helping to build up the manufacturing base. In the Federation copper ore is smelted or refined to the pure copper stage before it is exported, tobacco is processed and packed after having been sold on the auction floors, tea is similarly treated whilst iron ore and chrome ore are smelted to be exported as ferrochrome. Other examples of limited processing before export include the production of wattle extract, the treatment of cattle hides, the chilling of beef, and the delinting of cotton.

30. The use of tariff policy as a weapon to stimulate industrial development has a very important part to play in the less developed countries. It is often impossible to manufacture items economically and sell them in competition with products made on a large scale in more developed countries. Similarly these latter countries may have special pricing policies for products they export which make manufacturing in the less developed countries very difficult or impossible. In these circumstances a realistic duty imposed on the imported product encourages its local manufacture.

31. Such manufacture may be only on a limited scale at the outset and may in fact produce an article which is more expensive than the imported item. However as production increases behind the tariff wall and as the local market develops, the price can be reduced because of the spread of overhead costs, and when this development has been taken to its logical conclusion, such an industry is in a position to begin to compete in the export market.

32. Reference was made above to special pricing policies on exports; a country which receives such products is often content to take advantage of the lower prices being charged, as long as they do not compete with the products of its own industry. On the other hand if the imported products do, in fact, compete with local manufactures, they are often treated as dumped and a special penal duty is imposed to prevent their continued importation. There are of course very serious difficulties in the way of proving that the item or items are in fact dumped, and often the damage to local industry is done before dumping becomes known or is proven.

33. Apart from the customs tariff, import control or exclusive licensing may be used to assist industrial development. These weapons are more positive than using the customs tariff but they may give rise to inefficiency in the industry which is being assisted.

34. Even where industry is assisted or could be assisted as indicated above the market provided domestically may not be large enough to sustain economic manufacture of particular items or products, and this consideration leads to the thought that markets may be increased sufficiently to sustain this type of development by broad groupings of countries in some form of economic association behind a common tariff wall.

35. With the large number of under-developed countries in the world and in particular in Africa there is tremendous scope for broad groupings of countries and these groupings could assist the development of each and every country in the group.

To prevent any one country in the economic grouping gaining from association at the expense of the others in the group, it would probably be necessary to use a system of direction of industry or industrial licensing which had that effect. As industrial development advanced in these associated territories, so there could be multiplication of the industries concerned and eventually each country in the economic grouping could have its own widely based secondary industry sector. As an example of this sort of development, an oil refinery normally requires a relatively large market to be an economic proposition and three states may have a sufficiently large market to justify the establishment of such a refinery. With the growth of the area as a whole following the siting of a number of such industries in that area, a stage is reached when a second refinery is justified and eventually after further development all three states will each be served by its own refinery.

36. This summary of the special factors affecting industrial development in under-developed areas has been prepared to assist and speed up the development of secondary industry in the large number of countries in the world which are presently in desperate need of a vast improvement in the living standards of their peoples. These countries, particularly those in Africa, are well supplied with minerals, agricultural potential and labour, but their transition to the status of advanced countries needs a tremendous expenditure of capital and a vast injection of industrial know how. The fortunate countries of the world must double and redouble their efforts to assist the transition of the less fortunate from poverty to plenty.

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